Grade 4 Target L

Domain, Target, Standards, DOK, Vertical Alignments, Achievement Levels, Evidence Required, Vocabulary, Response Types, Materials, Attributes, Question Types, and Question Banks (Examples)

Content Domain: Geometry

Target L [s]: 4.G.A Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Standards included in Target L 4.G.A, 4.G.A.1, 4.G.A.2, 4.G.A.3

4.G.A Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

4.G.A.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

4.G.A.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Vertical Alignment

Related Grade 3 standards

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3.G.A Reason with shapes and their attributes.

3.G.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

Related Grade 5 Standards

5.G.B Classify two-dimensional figures into categories based on their properties.

5.G.B.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.

5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties.

Achievement Level Descriptors

Level 1 Students should be able to draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines; recognize a line of symmetry for a familiar two-dimensional figure; and identify right triangles.

Level 2 Students should be able to identify points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines in two-dimensional figures and recognize all lines of symmetry in unfamiliar two-dimensional figures.

Level 3 Students should be able to draw lines of symmetry for two-dimensional figures, classify two-dimensional figures based on parallel or perpendicular lines or angles of specified lines, and recognize right triangles as a category.

Level 4 No Descriptor

Evidence Required

1. The student draws points, lines, line segments, rays, and angles and identifies these in two-dimensional figures.

2. The student classifies two-dimensional figures based on the presence or absence of parallel/perpendicular line segments and angles of a specified size, including identifying right triangles.

3. The student identifies and draws lines of symmetry in line-symmetric figures, and distinguishes line-symmetric figures from line-asymmetric figures.

Vocabulary

point, ray, angle, line, line segment, parallel, perpendicular, right, obtuse, acute, sides, polygon, triangle, quadrilateral, pentagon, hexagon, octagon, right triangle, line of symmetry, greater

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than, less than, equal to

Response Types
Matching Tables; Graphing; Hot Spot

Materials
drawings of two-dimensional figures, points, lines, line segments, rays, angles

Attributes
Numbers used in this target must be whole numbers. In describing a multiplicative comparison, the language “times as much” or “times as many” is preferable to “times more than.”

Claim 1: Concepts and Procedures (DOK 1, 2) Question Banks
Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.

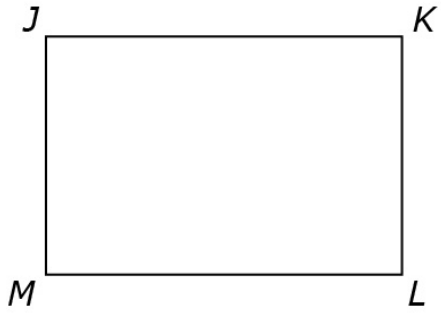
Claim 1 4.G.A.1 DOK Level 1

Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

Evidence Required
The student draws points, lines, line segments, rays, and angles and identifies these in two-dimensional figures.

Question Type 1: The student is presented with a two-dimensional geometric figure.

1. Click on line segment ML.

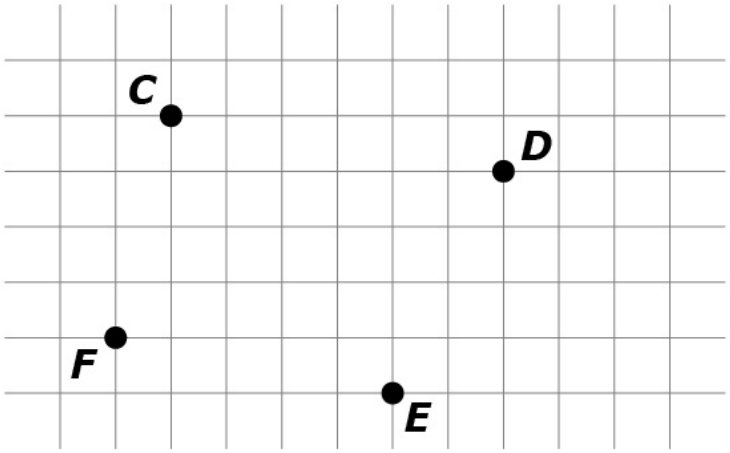


Rubric: (1 point) The student selects the correct element (e.g., line segment ML).

Response Type: Hot Spot

Question Type 2: The student is presented with three to five points on a grid.

1. Use the Connect Line tool to draw line segment CD.



Rubric: (1 point) The student draws the correct line segment (e.g., line segment CD).

Response Type: Graphing

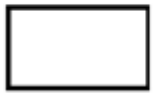
Claim 1 4.G.A.2 DOK Level 2

Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

Evidence Required
The student classifies two-dimensional figures based on the presence or absence of parallel/perpendicular line segments and angles of a specified size, including identifying right triangles.

Question Type 1: The student is presented with drawings of two-dimensional geometric figures and three categories based on the presence or absence of angles of a specified size (right, acute, or obtuse) and/or the presence or absence of parallel or perpendicular sides.

1. Click in the box that matches each figure with its description. Each figure may be matched to more than one description.

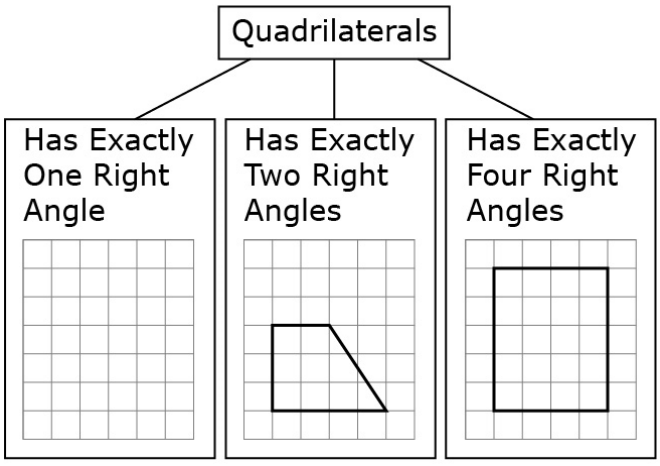
	Has one or more right angles	Has one or more pairs of perpendicular sides	Has one or more pairs of parallel sides
 Rectangle			
 Rhombus			
 Parallelogram			

Rubric: (1 point) The student correctly classifies the given figures (e.g., Rectangle: Right, Perpendicular, Parallel; Rhombus: Parallel; Parallelogram: Parallel).

Response Type: Matching Tables

Question Type 2: The student is presented with a classification schema involving the presence or absence of angles of a specified size (right, acute, or obtuse) and/or perpendicular or parallel sides.

This chart shows one way to classify quadrilaterals. Use the Connect Line tool to draw a quadrilateral that belongs in the box labeled “Has Exactly One Right Angle.”



Rubric: (1 point) The student constructs a shape that meets the requirements of a classification schema (e.g., a quadrilateral with exactly one right angle).

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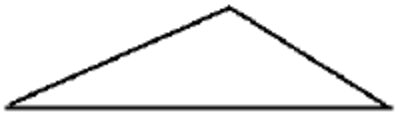
Response Type: Graphing

Question Type 3: The student is presented with three triangles.

Decide whether the shape appears to be a right triangle. Select Yes or No for each triangle.

	Yes	No
		
		
		

Rubric: (1 point) The student correctly identifies three triangles as right triangles or not right triangles (e.g., Y, N, N).

Response Type: Matching Tables

Claim 1 4.G.A.3 DOK Level 1

Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

Evidence Required
The student identifies and draws lines of symmetry in line-symmetric figures, and distinguishes line-symmetric figures from line-asymmetric figures.

Question Type 1: The student is presented with three shapes, each with a line drawn through it.

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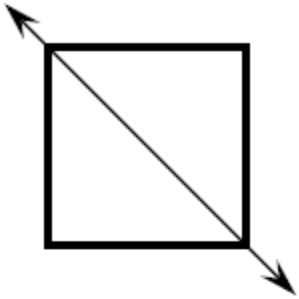
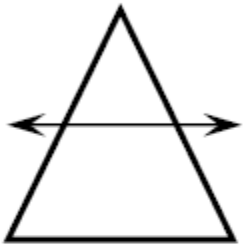
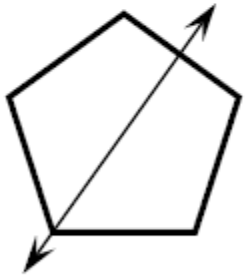
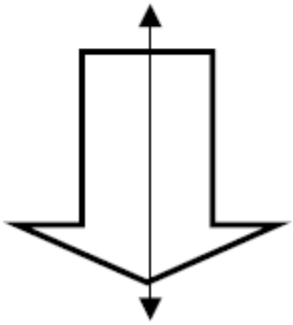
Decide whether the line appears to be a line of symmetry for the shape. Select Yes or No for each shape.

	Yes	No
		
		
		
		

Rubric: (1 point) The student correctly identifies three lines as being lines of symmetry or not (e.g., Y, N, Y, Y).
Response Type: Matching Tables

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Question Type 2:The student is presented with a set of three line-symmetric, two-dimensional figures.

1. Use the Add Arrow tool to draw all the lines of symmetry for the shape. If there are no lines of symmetry, click None.

2. Use the Add Arrow tool to draw all the lines of symmetry for the shape. If there are no lines of symmetry, click None.

3. Use the Add Arrow tool to draw all the lines of symmetry for the shape. If there are no lines of symmetry, click None.

Rubric:
(1 point) The student correctly draws all lines of symmetry with no incorrect lines, or correctly selects None (e.g., as shown below).


;

(None is selected);


Response Type: Graphing and Hot Spot

Question Type 3:The student is presented with three two-dimensional geometric figures.

Determine the number of lines of symmetry for each shape. Click in the box that matches the shape to the correct number of lines of symmetry.

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	None	Exactly 1	Exactly 2	Exactly 3	More than 3
 Rectangle					
 Triangle					
 Circle					

Rubric: (1 point) The student correctly identifies the number of lines of symmetry in each shape (e.g., Exactly 2, None, More than 3).

Response Type: Matching Tables

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